Level 1 Validation Certificate

WSO

This document verifies that the Level 1 Validation process was completed. The session details and audit review outcomes are included here.

This certificate is required for submission – alongside the Level 1 validated water audit software file – to the California Department of Water Resources.

Call Date: 8/14/2019

Water Supplier

Supplier Name:	City of Menlo Park
Supplier Participants:	Pam Lowe, Eren Romero, Chris Lamm, Luis Olivera

Validator

Validator:	Isabel Szendrey, Water Systems Optimization
Validator Qualifications:	Water Audit Validator Certificate from the AWWA California Nevada Section

Key Audit Metrics

Data Validity Score:	54	
ILI:	3.06	
Real Loss:	55.08	gal / conn / day
Apparent Loss:	16.55	gal / conn / day
Non-Revenue Water as Percent of Cost of Operating System:	9.2%	

Certification Statement by Validator

This water loss audit report has been Level 1 validated per the requirements of California Code of Regulations Title 23, Division 2, Chapter 7 and the California Water Code Section 10608.34.

All recommendations on volume derivation and Data Validity Grades were incorporated into the water audit. ☒

Level 1 Validation – Water Supplier Confirmation

This document confirms participation in and endorsement of the Level 1 Validation as completed.

This acknowledgement is required for submission – alongside your Level 1 validated water audit software file – to the California Department of Water Resources.

Water Supplier Name:	Menlo Park Municipal Water
Water Supplier Public Water System ID:	4110017
Water Audit Period:	Calendar Year 2018

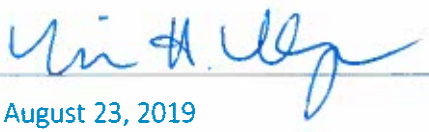
Water Audit & Water Loss Improvement Steps

Steps taken in the audit period timeframe to increase data source accuracy, reduce real losses, and/or reduce apparent losses, as informed by the water audit.

SFPUC, our water wholesaler, has begun providing calibration information on our main turnouts. We've improved our reporting of unmetered/unbilled consumptions. Our monthly water consumption has been prorated.

Certification Statement by Water Supplier Executive:

This water loss audit report meets the requirements of California Code of Regulations Title 23, Division 2, Chapter 7 and the California Water Code Section 10608.34 and has been prepared in accordance with the method adopted by the American Water Works Association, as contained in their manual, *Water Audits and Loss Control Programs, Manual M36, Fourth Edition* and in the Free Water Audit Software version 5.

Executive Name (print):	Niicole H. Nagaya
Executive Position:	Interim Public Works Director
Signature:	
Date	August 23, 2019

Level 1 Validation Summary Notes

This document includes detailed notes about utility practices as reviewed during third-party level-one water audit validation.

This document is not a required submission to the California Department of Water Resources. It is meant to provide background and documentation of the validation process.

Call Information

Utility	Validator
Utility Name: City of Menlo Park	Validator: Isabel Szendrey, Water Systems Optimization
Utility Participants: Pam Lowe, Eren Romero, Chris Lamm, Luis Olivera	Validator Qualifications: Water Audit Validator Certificate from the AWWA California Nevada Section
Call Date: 8/14/2019	

Validation Call Notes

Audit Input	Grade	Audit Input Notes	Data Validity Grade Notes
Volume from Own Sources	n/a	No own sources of water	n/a
Volume from Own Sources Master Meter and Supply Error Adjustment	n/a	n/a	n/a
Water Imported	5	Import Meter Profile: Water is imported from SFPUC through 5 individually metered connections. Derivation: Volumes were computed from SFPUC hourly SCADA data. Invoices to Menlo Park do not line up with beginning/end of month. Comments: Input derivation from supporting documents confirmed. Exclusion of non-potable volumes confirmed.	Approximate Percent of Volume Metered: 100% Approximate Percent Tested and/or Calibrated: 100% Calibration Frequency: Every two years – as needed based on accuracy test results Volumetric Testing Frequency: Every two years Volumetric Testing Method: Comparative apparatus. Comments: No additional comments.
Water Imported Master Meter and Supply Error Adjustment	5	Derivation: Weighted average from accuracy test results and net storage volume change from reservoirs. All 5 meters were tested in 2018. Comments: No additional comments.	Import Meter Read Method: Automatic logging via SCADA telemetry. Import Meter Read Frequency: Hourly. Data Review Practices: Annual. Comments: No additional comments.
Water Exported	n/a	Export Meter Profile: 7 emergency interconnections not used during 2018	n/a
Water Exported Master Meter and Supply Error Adjustment	n/a	n/a	n/a

Billed Metered Authorized Consumption	3	Derivation: Analysis of meter read data Customer Meter Profile: Read Frequency: Monthly. Reading Technology: Mostly manual and some touch read. Age Profile: 30 – 40 years Comments: Lag-time correction is employed in input derivation. Input derivation from supporting documents confirmed. Exclusion of non-potable volumes confirmed. Small number of accounts for East Palo Alto is read by Menlo Park. This volume does not apply to the water audit and is excluded from the total volume.	Approximate Percent Metered: 100% Small Meter Testing Practices: None. Number of Small Meters Tested: None Large Meter Testing Practices: None. Number of Large Meters Tested: None General Replacement Practices: Upon failure only. Billing Data Review: Standard billing QC. Comments: No additional comments.
Billed Unmetered Authorized Consumption	5	Profile: Fire service connections are not metered and billed a flat rate. The connections do have check detector valves and data on their use is tracked. Derivation: Current value is a placeholder to acknowledge that some volume exists for this category. Comments: City of Menlo Park may analyze the data available on check detectors to estimate this volume.	Policy for Metering Exemptions: Limited to fire service connections. Comments: No additional comments.
Unbilled Metered Authorized Consumption	n/a	Profile: No unbilled metered facilities	n/a
Unbilled Unmetered Authorized Consumption	7	Profile: Operational flushing and fire department usage. Their operational use is tracked and quantified. Fire department usage is not quantified or estimated. Current estimate only includes the volume estimated for their operational flushing – no volume included for fire department use. Comments: Consider estimating and including in this category the volume of water used for fire suppression. If an estimate is not available – then consider using the default value.	Comments: Clear policies and good recordkeeping exist for some uses but not for others. The stated volume does not include an estimate of those untracked uses.
Unauthorized Consumption	5	Comments: Default input applied.	Comments: Default grade applied.
Customer Metering Inaccuracies	1	Derivation: Rudimentary estimate. Comments: No additional comments. *See BMAC comments regarding meter testing & replacement activities.	Customer Meter Testing: None Customer Meter Replacement: Limited (upon failure only). Comments: No additional comments.
Systematic Data Handling Errors	5	Comments: Default input applied.	Comments: Default grade applied.

Length of Mains	9	Derivation: Totaled from GIS based map. Hydrant Laterals Included: Yes. Comments: No additional comments.	Map Format: Digital. Asset Management Systems: Integrated with GIS system. Map Update Process: Accomplished through normal work order processes. Comments: No additional comments.
Number of Service Connections	9	Derivation: Standard report from GIS system Basis for Query: Service connections Comments: This number includes both active and inactive service connections, as well as fire services.	Field Validation: Accomplished through GIS QC process. Estimate of Error: 2%. Comments: No additional comments.
Average Operating Pressure	4	How Pressure is Maintained: 3 general pressure zones (low, upper and high) High pressure zone regulated with PRVs. Pressure Range: 70 – 150 psi Derivation: Calculated as weighted average from analysis of field data. Comments: No additional comments.	Pressure Data Collection: Hydrant pressures taken during routine system flushing and/or hydrant testing, or as operational checks. Real-Time Monitoring: Basic - telemetry or pressure logging at boundary points (supply locations, tanks, PRVs, boosters). Hydraulic Model: Hydraulic model was created in 2018 but uncertain if field calibrated. Comments: No additional comments.
Annual Operating Cost	10	Derivation: From official financial reports. Comments: Confirmed costs limited to water only, and water debt service included.	Auditing Practices: Annually by a third party CPA. Comments: No additional comments.
Customer Retail Unit Cost	9	Rate Structure: Tiered rate structure Derivation: Weighted average based on consumption by each rate. Sewer charges are not based on water meter readings. Sewer revenues are not applicable. Comments: No additional comments.	M36 Review: Input calculations have not been reviewed by an M36 water loss expert. Comments: No additional comments.
Variable Production Cost	5	Primary Costs: Import supply only. Secondary Costs: None currently included. Comments: No additional comments.	M36 Review: Primary costs only. Input calculations have not been reviewed by an M36 water loss expert. Comments: No additional comments.

Infrastructure & Water Loss Management Practices:

Infrastructure age profile: Oldest areas about 90 years up to recent installations.
Infrastructure replacement policy (current, historic): None
Estimated main failures/year: 4 Estimated service failures/year: 9
Extent of proactive leakage management: None
Other water loss management comments: No additional comments.